DOCUMENT RESUME

ED 274 382 JC 860 486

AUTHOR Miles, Curtis; And Others
TITLE A Compendium of Up-to-Date Research on Topics Ranging from Software to Program Evaluation. NADE Research Report, Number 3.
INSTITUTION National Association for Developmental Education.
PUB DATE Mar 84
NOTE 78p.
AVAILABLE FROM National Association for Developmental Education, P. O. Box 60227, Chicago, IL 60660 ($1.00).
PUB TYPE Reports - Descriptive (141) -- Collected Works - Serials (022)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Computer Software Reviews; Consultants; *Courseware; *Developmental Studies Programs; *Evaluation Methods; National Surveys; Postsecondary Education; *Program Evaluation; Questionnaires; Remedial Programs; Research Design; Research Needs; Speeches

ABSTRACT

This collection of essays focuses on various aspects of research and instruction related to developmental education. The collection includes: (1) "Evaluating Instructional Software for Developmental Education," by Curtis Miles, which includes information on types of microcomputer software, developmental student characteristics, microcomputer capabilities, and the evaluation process, as well as a form for evaluating software; (2) "Guidelines for Making Quality Presentations," by Anna M. Kowalczyk; (3) "Guidelines on Running Conferences," by Valeriana Brown; (4) "Program Evaluation: A Primer," by Darrel Clowes and Belinda Anderson, which begins with basic principles of evaluation, followed by an overview of the steps involved in evaluating developmental activities; (5) "Critical Issues and a Research Agenda for Developmental Education," by Darrel Clowes, which reports on a survey conducted to determine critical issues facing developmental educators; and (6) "Speaker/Consultants in the Field of Developmental Education," a directory compiled by Sr. Mary Pardy. (EJV)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED274382

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☒ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

A. Reynolds

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

A COMPENDIUM OF UP-TO-DATE RESEARCH ON TOPICS RANGING FROM SOFTWARE TO PROGRAM EVALUATION

JC 860 486

NADE Research Report, Number 3

National Association for
Developmental Education

March 1984

BEST COPY AVAILABLE

EVALUATING INSTRUCTIONAL SOFTWARE FOR DEVELOPMENTAL EDUCATION

by

Curtis Miles

Piedmont Technical College

With the Help of:

Bob Lemelin
Charles Belair
Rick Hinterthuer
Mike Hoban
Dave Sutherland
Robert Hoffman
Dick Shelton
David Shinn
Terri Smith

March, 1984

A publication of

The National Association for Developmental Education

C. NADE 1984

TABLE OF CONTENTS

		PAGE
I.	INTRODUCTION	1
II.	TYPES OF MICROCOMPUTER SOFTWARE	1
	A. Computer As Teacher	2
	1. Drill & Practice	
	2. Tutorial	
	B. Computer As Model	2
	3. Simulations & Games	
	C. Computer As Tool	3
	4. Management/Administration	
	5. Operational	
	6. Programming/Authoring	
III.	CHARACTERISTICS OF DEVELOPMENTAL STUDENTS	4
	A. Learning Characteristics	4
	B. Academic Characteristics	4
	C. Cognitive Characteristics	4
IV.	PERTINENT MICROCOMPUTER CAPABILITIES	4
	A. Teaching/Learning 'Style'	5
	B. Responsiveness	5
	C. Multisensory	5
	D. Activity	5
V.	EVALUATING SOFT ARE	5
	A. Evaluation Process	5
	1. Selection of Possibilities	
	2. Initial Screening	
	3. Full Evaluation	
	4. Comparison & Decision	
	B. Characteristics of Quality Software	7
VI.	SOFTWARE EVALUATION FORM	8
	A. Instructional Target	8
	B. Educational Design	9
	C. Instructional Delivery	10
	D. Affective Impact	11
	E. Instructor Use	12
	F. Support Elements	13
VII.	PREVIEWING	13
VIII.	PUBLISHED EVALUATIONS & RESOURCES	14
IX.	NEXT STEPS	16

C. NADE 1984

SECTION I. INTRODUCTION

Using computers for instructional purposes in developmental education is obviously a very timely and confusing topic. Many of us are told or feel we must select some computer hardware (the equipment) and/or software (the programs) and use it. We aren't clear on what's available, how to choose, or how to use it. We suspect that making the wrong choices at this early stage may blight future use of computers in our programs, but that doing nothing may prove equally as harmful.

This publication is not intended to solve the entire problem. It tackles a single piece of the puzzle: how to evaluate microcomputer software for instructional use in developmental programs. Moreover, it is a primer rather than a treatise -- it provides a short, readable introduction to the topic. It is a first edition, to help out NOW, rather than the final word.

The focus is on the developmental educator who, without training, much knowledge or experience, or noticeable help, must decide what software to buy. It assumes that you will be an island unto yourself, and that you are not well-versed in wisely selecting microcomputer software. It assumes that you already have the hardware. It assumes that you are willing to take the time to make software selection a systematic rather than a random decision.

Evaluating software does not exist in a vacuum. In making a decision we need to consider at least four ingredients: the types of software there are, the pertinent characteristics of developmental students, the crucial characteristics of microcomputers, and the instructional purposes we have in mind. Sections II-IV of this document deal with the first three ingredients in the software selection equation. Section V presents a general evaluation process, while Section VI itemizes an evaluation form for you to modify. Section VII discusses previewing of software, while Section VIII lists some particularly useful sources of published software evaluations and a few references. Section IX closes with some suggestions of further things which NADE is considering doing in the area of microcomputers in developmental education.

SECTION II. TYPES OF MICROCOMPUTER SOFTWARE

Microcomputer software falls into at least six groups, distinguished mainly by what it does, and how it is used. Distinguishing among them is important when deciding if a particular piece of software is worth purchasing. The types can usefully be divided by differences in what they ask the computer to be and do.

C. NADE 1984

A. COMPUTER AS TEACHER

Two of the six types mainly ask the computer to teach.

1. Drill & Practice. This most common software type serves to reinforce previously-learned skills. It presents a controlled, though hopefully randomly-generated, set of exercises of activities, often within a gaming format. It should contain several difficulty levels, and large numbers of problems. It works best with narrow, well-specified skills, and sometimes tracks student performance. It can become boring and uncreative, or the gaming aspect can overwhelm the learning intention.

2. Tutorial. This type presents complete instructional units of new information, usually without help from the instructor. It can initially teach something, or can reinforce, enrich, apply, or broaden something whose rudiments have already been taught. It works best with clearly-defined basic concepts and strategies, when there is relatively high learner motivation. It should contain several levels of difficulty, should diagnose, and should then adjust the material to individual needs/abilities. A tutorial program can become very dreary if it just presents text, and then asks questions for comprehension. A danger is that a student, once lost or discouraged, will have difficulty getting back on the predetermined track. Too often, (s)he can get back to where (s)he stopped only by repeating exactly what has already been studied.

B. COMPUTER AS MODEL

A second, broader category of software asks the computer to create an artificial model of some aspect of reality, and then to have the student act with and within it.

3. Simulations & Games. This type of software creates real or imaginary physical or social realities (fur traders, factories, space colonies, fantasy or adventure worlds, etc.), and asks the student to make choices and then deal with the consequences. It calls for heavy student involvement ("interactive"), with a strong emphasis on problem-solving. It should provide hints and clues to help students discover critical points, but can also often be very open-ended, require both thinking and doing and/or allow several paths to mastery. A

C. NADE 1984

piece of game software rarely directly teaches anything other than problem-solving, but can be the creative vehicle for teaching other things (e.g. history, vocabulary).

C. COMPUTER AS TOOL

The final three types of software use the computer mainly as a tool for doing things. These can be used by the teacher, the student, or both.

4. Management/Administration. Microcomputer software can be a powerful instructional aid in such areas as record-keeping, grade tracking and calculation, diagnosing and assigning supplemental materials and activities, generating tests and worksheets, and the like. Most of this software is specialized, and not for student use. Unfortunately, most of it can only be evaluated by using it heavily over a period of time, to discover strengths and weaknesses, and after you have purchased it.

5. Operational. There is much software which is an operational tool, in three areas: word processing, data-based management (manipulating a lot of information), and numerical spreadsheets (for financial and statistical calculations). Any can be a powerful classroom tool (e.g. teaching writing with a word-processing program, or research with a data-based management program). Such uses depend on finding software which is unsophisticated enough for rapid student mastery. There are also specialized operational software programs (e.g. spelling-checkers, math algorithms) which may have instructional implications.

6. Programming/Authoring. The final type of software comes in three versions. Special languages (such as LOGO) simplify and often make more creative the writing of computer programs. Authoring software (such as Super Pilot) allow instructors to write their own special computer programs (usually drill and practice or tutorial) without knowing how to program at all. The special program itself translates general intentions into programming language. And, third, there is software which can add graphics, sound, etc. to locally-developed programs.

A given piece of software may combine more than one of these types, but can normally be identified as being mainly one or another. Choosing the type of software you want (within the context of how and where you plan to use it) is an important early decision in your search.

SECTION III. CHARACTERISTICS OF DEVELOPMENTAL STUDENTS

The second critical ingredient in the software selection mix is the particular characteristics of developmental students. Few software evaluations pay more than superficial attention to the precise type of student the program will be effective with. This dimension is obviously of great importance when we combine adult students, K-12 skills, and major learning and cognitive difficulties. What will help bright, middle-class junior high school students master writing skills may well NOT work with our students. The characteristics of postsecondary developmental students which seem of relevance can be generalized into three groups: learning, academic, and cognitive characteristics.

A. LEARNING CHARACTERISTICS.

Developmental students tend to have short attention spans, be easily distracted, have poor self-concepts as learners (believe they can't), pay little attention to details and directions, are not self-starting or self-motivated, have inadequate learning skills, and need major teacher and peer assistance or presence.

B. ACADEMIC CHARACTERISTICS.

Many of them have poor comprehension skills, poor vocabularies, very narrow background knowledge (history, culture, society, etc.), short memories and retention, etc.

C. COGNITIVE CHARACTERISTICS.

They tend to be: rigid, concrete thinkers; unaware of how they or anyone else thinks; one-shot problem-solvers, reluctant to take risks; limited in ability to generalize from examples, analogies, etc.; and almost totally reliant on the lowest levels of cognition (memory).

Precious little software is written for this population, though there is some written for general audiences which can work with developmental students. The trick is to detach ourselves from our own learning skills and abilities, and from the glamour of the technology, and view software as our students will.

SECTION IV. PERTINENT MICROCOMPUTER CAPABILITIES

The computer, like any technology, has specific strengths and potentials (some of which we are just beginning to unravel). The major error with much software is that it uses the computer as a mechanical textbook or a mindless fireworks display. Good

software builds deliberately upon those things which the computer does better than any other technology. The third ingredient in the software selection equation is thus those pertinent microcomputer capabilities.

A. TEACHING/LEARNING 'STYLE'.

Computers can give students a sense of control, can reduce pressure and increase privacy (by not having others notice their errors), and can be endlessly patient and consistent. They can also force the student to be specific (when students discover that "you know what I meant" doesn't work with a blind and dumb machine), and can begin eroding their habit of meeting difficulties by "psyching out" the instructor. Major obstacles to the teaching/learning exchange can change when students work with computers.

B. RESPONSIVENESS.

The computer can give startlingly fast feedback, can generate endless activities, can constantly evaluate student progress, and can quickly change the learning events to respond to student troubles or successes.

C. MULTISENSORY.

The computer can add pictures and sounds to text, can use graphics to replace or highlight text, and can in general replace monomodal learning with orchestrated multisensory experiences, cheaply and fairly easily.

D. ACTIVITY.

The computer can demand continual student involvement: both physical and mental activity. It can outwait the student, and can constantly seek to put the student in a position where he or she must do the "making sense" out of the material.

The computer can do all of these things. Good software will do many of them.

SECTION V. EVALUATING SOFTWARE

A. EVALUATION PROCESSES

Adequate evaluation of software takes time and insight. Ideally, evaluations will be done by campus committees, armed with detailed forms, and able to spend several hours each at the task. In practice, evaluation will often be done by a single harried individual, with no quality time available and often with little idea of what to look for.

This Section tries to provide some insights into what to look for. Each institution, however, must build its own evaluation process around candid answers to three critical questions:

* How much time can you spend evaluating a piece of software?

* How, where, and with whom will you use the software?

* Where are your critical gaps in teaching & learning, which cannot be filled by other means?

Frank answers to these questions can be the basis for a practical local evaluation process. The following two-cycle evaluation process is workable, and adaptable to many types of local constraints.

1. Selection of Possibilities. Identify several pieces of software which might meet your needs, and which you can obtain for previewing. To do this, scan commercial/public software reviews, talk to colleagues, invite vendors in to display their wares, write to experts, or visit other institutions which are farther down the road than you are. Order several of the most likely possibilities, for review.

2. Initial Screening. Subject each piece of software to an initial screening, to see if more laborious evaluation is warranted (many times, only a cursory look will serve to eliminate software). Develop a short evaluation form, summarizing your top 8-10 priority requirements. If possible, have at least 3 people evaluate the software (less than an hour each). Compare notes, and decide whether or not to proceed with Step 3.

3. Full Evaluation. A full hands-on evaluation might include the following:

a. Prepare a detailed evaluation form, such as the sample later in this section, but tailored to your own constraints and priorities. Be sure to leave room for qualitative, impressionistic comments: don't just evaluate quantitatively.

b. Run one part of the software as a successful student would. Use right answers, variations on answers, attempts to skip ahead, and in general challenge the best in the program. Note even minor things that bug you.

C. NADE 1984

c. Run another part as an unsuccessful student would, with persistent errors, typing mistakes, accidentally pushing ESC or RET, etc. Try to get confused. Try to start over. Note what happens and doesn't happen.

d. Try at least one segment (not at the beginning) many times, with all sorts of input, to test all the possibilities.

e. See what the software actually does; don't assume that it does something simply because that seems logical, or implied, or implicit.

f. Have some students evaluate the software, or have them use it and watch what happens.

4. Comparison and Decision. The final step is simply to take the data, and choose to buy or not.

a. Compare notes with others evaluating the software on campus, with users elsewhere, and with published reviews. If there are major discrepancies, review the program again on specific points.

b. Make a decision about purchasing the software.

A couple of final precautions may be in order. First, don't evaluate different types on exactly the same basis: for example, drill and practice software, and tutorial software, should have different characteristics. Second, don't get seduced by the technology; work with a piece of software long enough that the glamour fades, and the real quality (or lack of it) comes through. Third, never unreservedly accept what the publisher's literature or vendor says; they will almost certainly not know developmental students (and often will not know the software either).

B. CHARACTERISTICS OF QUALITY SOFTWARE

Software tends to be "quality" if it teaches developmental students specific things as or more effectively than other available means of instruction, without negative side effects. Some general characteristics which promote such outcomes are the following.

- Suited to developmental students (academically, culturally, etc.)
- Interactive (continually requiring action, thought, choices)

- o Based on sound teaching/learning theory
- o Embodying sound instructional practices
- o Error free (technical, spelling, content, etc.)
- o Easy to use (for student and instructor)
- o Maximizing the computer's uniquenesses (graphics, memory, etc.)
- o Responsive to individual status (diagnostic, branching, etc.)
- o Building self-concept and reasoning skills along with content learning
- o Learner-directed and controlled

Little software will achieve all of this, and that which comes close will probably be among the most expensive. Nevertheless, we need to continually remember what software can be as we try to decipher what a particular piece of software actually is.

SECTION VI. SOFTWARE EVALUATION FORM

Figure 1, on the following pages, contains a "shopping list" of factors that you might want to consider when evaluating software. The list is too long, yet does not include everything that someone might find pertinent. We have attempted to build from the perspective of a practicing developmental educator, trying to find software which will help students while not making her or his job harder.

YOU SHOULD TAILOR THIS EVALUATION FORM TO YOUR OWN PRIORITIES AND CONSTRAINTS. CUT IT DOWN TO MANAGEABLE SIZE, TO WHAT'S REASONABLE FOR YOUR SITUATION.

The rest of this subsection expands on the items in the rating form.

A. INSTRUCTIONAL TARGET

In what ways does this program match the characteristics of developmental students?

1. Academic Prerequisites? Reading, math, spelling, and writing skills? Specific areas of academic knowledge?

C. NADE 1984

DEVELOPMENTAL SOFTWARE EVALUATION FORM

RATING?

A. INSTRUCTIONAL TARGET

Appropriate for developmental students re:

___ 1. Academic prerequisites?
___ 2. Background/orientation?
___ 3. Cognitive skills?
___ 4. Motivation/attitude?
___ 5. Ease of operations?

B. EDUCATIONAL DESIGN

___ 1. Based on solid teaching/learning theory?
___ 2. Purposes and objectives clear?
___ 3. Content appropriate, accurate, bias-free?
___ 4. Stimulates thinking and creativity?
___ 5. Instructional sequence logical, modular?

C. INSTRUCTIONAL DELIVERY

___ 1. Keeps students active?
___ 2. Handles wrong answers effectively?
___ 3. Handles mechanical errors effectively?
___ 4. Input methods clear, simple, consistent?
___ 5. Adjusts to individual needs, strengths?
___ 6. Responses build self-concept?
___ 7. Students can move about freely in program?
___ 8. Directions & examples clear, useful, frequent?

D. AFFECTIVE IMPACT

___ 1. Graphics, sound enhance learning?
___ 2. Interesting and motivating?
___ 3. Screen designs effective?

E. INSTRUCTOR USE

___ 1. Minimum learning, preparation time?
___ 2. Instructor can adapt program content?
___ 3. Useable with varied student groupings, contexts?
___ 4. Records student performance?
___ 5. Can serve several computers simultaneously?

F. SUPPORT ELEMENTS

___ 1. Operating documentation helpful?
___ 2. Supplemental materials appropriate?
___ 3. Works properly?
___ 4. Uses available equipment?
___ 5. Free from errors (spelling, bugs, etc.)?

	Excellent				Very Poor
RATING SCALE:	1	2	3	4	5

C. NADE 1984

2. Background/Orientation? Is it for adults or children? Middle-class or lower-class? Cute or mature in reinforcers? Environment appropriate (jobs, families, and dating vs toys, fruit, etc.)? Will developmental students relate to the overall context?

3. Cognitive Skills? Does it assume more ability to manipulate concepts, ideas, intangibles than most developmental students can handle? What specific reasoning/thinking capabilities and techniques does it assume? Does it begin with what developmental students would consider "concrete"?

4. Motivation/Attitude? Does it assume curiosity, creativity, a love of challenge, an interest in learning, a belief in one's ability to "make sense" out of things (e.g. directions, examples)? How will someone with limited amounts of many of these characteristics, and perhaps expecting to become confused and defeated, react to the program?

5. Ease of operations? Can students operate the program and equipment easily? Is program very complex, in terms of what is required to get into it and move around in it? Does it require multiple key-strokes, remembering several types of commands without prompts, understanding computer terminology, etc.? Does it require reading of complex manuals?

B. EDUCATIONAL DESIGN

Overall, does the program represent a powerful learning experience for the student, in terms of underlying intent, design, etc.? (Note: the details of how the design is implemented are in Part C, below).

1. Based on solid teaching/learning theory? Does it seem to understand how developmental students learn? Is this stated, or clearly implicit? What does it assume about teaching/learning processes? Is there an explicit model or theory behind it?

2. Purposes and objectives clear? What does it intend to do? Is this clearly specified for the instructor? For the student?

3. Content appropriate, accurate, bias-free? What precise knowledge, techniques, concepts does the program teach? Are these consistent with our best understanding of what is important, and true? Are there factual errors? Does it encourage stereotypic thinking, biases, sexism, or antisocial behavior (e.g. violence), either

in the content or in the way the content is presented (graphics, reinforcers, etc.)? Remember that "content" includes everything the student learns from a program, not just the disciplinary material intended.

4. Stimulates thinking and creativity? Does the program force students to choose, ponder, think things through? Does it open up possibilities or foster "right answer" thinking? Does it allow multiple correct responses? Does it encourage "what-if?" thinking? Does it show or imply complex relationships among knowledge, or just isolated facts? Does it spoon-feed, or offer a can-opener?

5. Instructional sequence logical, modular? Does it flow from simple to complex, concrete to abstract? Does it include all required knowledge and skills? Are the "bites" of learning the right size for developmental students? Is it slow enough, but not boring?

C. INSTRUCTIONAL DELIVERY

The factors below weigh not what was intended, but how well the intention was carried out.

1. Keeps students active? What percentage of the time are the students doing something, vs time watching the screen? Are the activities more than picking "yes/no" answers? Do the activities force the students to wrestle with the material? Does it require so much wrestling that they will become discouraged? Do they interact with the computer in degrees and ways comparable to interactions with a live instructor in a one-to-one situation?

2. Handles wrong answers effectively? Does it react to wrong answers with clues, hints, further instruction? Does it just say "wrong"? Does it just give the right answer? Do the responses undercut the student's self-image, confidence? Is the correct answer given after no more than 3-4 incorrect responses?

3. Handles mechanical errors effectively? Does the program "crash" if students hit ESC or RET? How does it handle misspellings? Does it give cues for what to do when the student uses incorrect procedures, types badly, etc.?

4. Input methods clear, simple, consistent? Is it hard for the student to remember how to give information or answers? Are complex codes or multiple key-strokes

C. NADE 1984

used? Does it use the same method all the time? Do directions stay on the screen? Is it easy to ask for help in remembering?

5. Adjusts to individual needs, strengths? Does it diagnose, and then adjust what is taught to what the individual needs? Can students skip ahead if they are competent in something? Does it branch various ways re: level of difficulty, speed/pace, number of problems, etc.? Are tests frequent, and appropriate? Do tests interfere with flow of learning, take too much time? Can students review previously-studied material without repeating?

6. Responses build self-concept? Do the program's responses actively encourage the student? Do they maximize his/her motivation to continue? Do responses to both negative and positive answers do this? Are there a variety of negative and positive responses, or just one each?

7. Students can move about freely in the program? Does the software use menus, maps, etc. to guide students? Do students control the pace of presentation of material, level of difficulty, number of problems, etc.? Can students stop, and then reenter later where they left off? Will a student see her/himself as in control of the machine?

8. Directions and examples clear, useful, frequent? Is everything spelled out? Is the language simple, free of jargon, and at the proper reading level? Are directions consistent, not subject to misinterpretation? Are all complex things (from a developmental student's point of view) both explained and exemplified before students must respond? How easy is it to get confused?

D. AFFECTIVE IMPACT

In many ways, a computer's unique strengths address the affective more than the cognitive domain.

1. Graphics, sound enhance learning? Do they "speak for themselves", by substituting for expository text? Are they more appealing for right answers than for wrong answers? Are they overused? Are there screens without graphics? Can the sound be turned off? Do they distract or harmonize? Are they at the appropriate "age level"? Do they actually help the student understand (e.g. by graphically demonstrating concepts)? Are they mainly for show and dazzle? What would be lost/gained if they weren't there?

C. NADE 1984

2. Interesting and motivating? Will the student want to stick with the program? In drill and practice programs, will they want to return to it? Will it help them want to learn, or just to play?

3. Screen designs effective? Does the layout help or hinder? Is it too crowded with text? Does it use delays, blinks, or reverse text to show emphasis? Does it keep information on after it is no longer needed? Is it used mainly as a scrolling textbook? Is it visually appealing?

E. INSTRUCTOR USE

The value of even a good piece of software diminishes to the degree that it increases the long-term burden on the instructor.

1. Minimum learning, preparation time? How long does it take the instructor to master the program? Is it easy to remember how to use it? How much preparation is required before using it with given students?

2. Instructor can adapt program content? Can the instructor add to, delete from, or change the problems, vocabulary, exercises, etc. to make them more pertinent for developmental students or specialized uses (e.g. technical vocabularies)? Can the instructor modify the program itself?

3. Useable with varied student groupings, contexts? Is the program useful with individuals, small groups, and/or class-sized groups? Can it be used individually in a computer lab, or does it need an instructor available? Will its use distract others in a learning lab?

4. Records student performance? Does it keep track of individual student work? What kind of data does it keep? How many students can it accommodate? How secure is the data from other students? Does it require students to have, and remember, secret codes?

5. Can serve several computers simultaneously? Some programs must remain in the disk drive in order to be used. Others can be removed, and used to start up any number of other computers. The former requires one copy per student, the latter requires one copy for all students. This can be a critical factor, given the cost consequences, if the disk cannot be copied, and each of several copies must be bought at full commercial price.

F. SUPPORT ELEMENTS

"Software" in most cases means more than just the material on the disk or tape itself. The other elements can often be important in determining the quality of the package.

1. Operating documentation helpful? Is it written in understandable English? Does it assume prior knowledge? Do students need to go through it before using the program? Is it accurate, complete, and written for the lay person? Does it use examples?

2. Supplemental materials appropriate? Are there supporting lesson plans, work sheets, activity ideas, reference works, etc.? Are they appropriate for developmental students? Are they instructionally useful? Do they mesh with the program? Does it seem like the program has been written as a gimmick to sell the supplemental material?

3. Works properly? Does it start up and run every time? Does it stop for no apparent reason?

4. Uses available equipment? Does it match what you have: type of computer, amount of memory, tape vs disk, printer, joystick or paddles, light pen, graphics pad, etc.? Does it need dual disk drives?

5. Free from errors? Does it have spelling, grammar, calculation, etc. errors? Does it have programming bugs?

Few practicing developmental educators are going to have the time to weigh all of these factors to the n'th degree. Nor is that necessary. Rather, decide what is the minimum you must have, in terms of some of the above characteristics. Design a form to concentrate only on those characteristics. Then simply do a quick scan of other factors, or use them in case a tie-breaker is needed between two acceptable pieces of software. Your main tradeoff in evaluating software will be time versus money. If you have a lot of funds, then scrupulous evaluations may be less necessary. If you have a little money, then you will need to spend more time deciding on the few things you can buy. Be prepared also to decide that there's nothing out there that you care to purchase right now!

SECTION VII. PREVIEWING

A key assumption in this evaluation schema is that you will be able to obtain copies of software for inspection purposes. How do you do that?

Increasingly, the better-known companies will allow previewing: either with a formal "on approval" understanding or with a thirty-day return policy. Many companies not printing such policies in their catalogs will allow you to return purchased materials if it clearly fails to meet your needs. They will be far more inclined to do this for educational institutions than for individuals, given the prevalence of individual pirating (illegal copying) of software. When in doubt, you should write or call in advance to get some definite agreement as to the conditions under which you can return software after it is purchased.

Many of the best prices on educational software can be obtained from discount houses. Unfortunately, most of these are the most strict concerning previewing and returns; many do not allow it under any circumstances.

SECTION VIII. PUBLISHED EVALUATIONS & RESOURCES

Increasing numbers of software evaluations are being published, in magazines and through commercial or public groups. There are no common standards among them. Most, in particular, pay little attention to the intended audience, a major problem for developmental educators. Most provide both a narrative review and some type of rating scale, using such factors as performance, ease of use, documentation, error handling, etc. Often, the 'quantitative' ratings will be middle range or better even if the narrative points to severe problems.

Some evaluations are based on group judgements and formal processes; most are purely one person's opinion. They should be read with great caution, and when possible two or more reviews of the same software should be compared. Below are listed some recommended publications containing evaluations or descriptions of software pertinent to developmental education.

Courseware Report Card/Secondary
150 West Carob St.
Compton, CA. 90220
($60/5 issues)

Educational Software Directory
P.O. Box 263
Littleton, CO. 80160
($22.50/Edition)

EPIE Micro-Courseware PRO/FILES
P.O. Box 620
Stony Brook, N.Y. 11790
($260/260 Reviews)

C. NADE 1984

Infoworld Magazine
P.O. Box 880
Framingham, N.H. 01701
($25/51 Issues)

Journal of Courseware Reviews
P.O. Box 28426
San Jose, CA. 93159
($7/Issue)

Microcomputers in Education
QUEUE
4 Chapel Hill Dr.
Fairfield, CT. 52319
($24/12 Issues)

MicroSIFT Reviews
NWREL
300 S.W. Sixth Ave.
Portland, OR. 97204
(Price not set)

Pipeline
Conduit
P.O. Box O
Oakdale, IA. 52319
($15/3 Issues)

School Microware Reviews
P.O. Box 246
Dresden, ME. 04342
($25/2 Issues)

There are mounds of articles on microcomputers, software, and the like. The following are six which are worth reading, as a sampler.

Bork, Alfred, "University Learning Centers & Computer-Based Learning", Journal of College Science Teaching, Nov., 1982.

Caldwell, Robert M., "Guidelines for Developing Basic Skills Instructional Materials for Use with Microcomputer Technology", Educational Technology, Oct., 1980.

Emmett, Arielle, "Discovering A New Way to Learn," Personal Computing, Jan., 1984.

C. NADE 1984

Myers, Darlene, "Why Micros?", Collegiate Microcomputer, Aug., 1983.

"Quality Software: How to Know When You've Found It!", Electronic Learning, Dec., 1982.

Root, Jock, "The Schoolhouse Apple (interview with Steve Jobs)", Softalk, Jan., 1984.

SECTION IX. NEXT STEPS

This document is a primer, and a beginning. A refined version will probably come out within the year, reflecting advances both in the field and in our knowledge of it.

This is also but the first in a series of documents on microcomputers to be produced by and for the National Association for Developmental Education. At least five other documents, along the lines of this one in format and length, are being considered, dealing with:

- How to implement microcomputer learning in developmental education programs,
- How to select microcomputer hardware for developmental education programs,
- A compendium of effective software for developmental education,
- Future trends in microcomputers as they affect developmental education programs, and
- Instructional and teaching/learning theory issues in microcomputers for developmental education.

Additionally, NADE's Computer Task Force is considering the utility and feasibility of creating formal user networks among developmental educators across the country.

Suggestions or reactions to anything in this document are welcomed, and should be sent to:

Curtis Miles
Dean
Piedmont Technical College
P.O. Drawer 1467
Greenwood, S.C. 29648
(803) 223-8357

C. NADE 1984

GUIDELINES FOR MAKING QUALITY PRESENTATIONS

by Anna M. Kowalczyk

Purdue University/Calumet

Guidelines for Making Quality Presentations

Making quality presentations often present a challenge to even those who enjoy public speaking because so much more is involved in delivering the message than knowledge of the subject. Attitude, method, and ability seem to make the difference in how successful the presentation becomes. Another important element in public communication is the message, which can be broken down into purpose, organization, language, and supporting materials. All of these elements, of course, interact and effect one another. Almost everyone can become an effective speaker by learning the principles of communication, and with practice the speaker can gain the needed self-confidence and ability. Although this sounds simple, actually it is very complex.

After the subject has been chosen and narrowed to a theses statement, the following guidelines may prove helpful:[1]

1. Speech content should be:
   reliable - content reflects dependable thoughts based on objective research and experience.
   valid - statements are true facts or acceptable opinions.
   relevent - content is applicable or pertinent to the central purpose or resulting conclusions.
   suitable - speaker uses content familiar to him; content relates to the occasion of the speech and to suitable audience response.

2. Speech organization should be clear. All coordinate and sub-coordinate parts should be recognizable and tied together with transitions, which can be either direct or delayed.

3. In speech delivery, careful use of all valid principles concerning method and technique should be employed, as well as effective use of voice and body.

Since the confrence speaker is usually expected to draw up the agenda, introduce the topic and objective, keep the discussion on tract and moving, and summarize the conference results and the concensus, the speaker's goal is aimed at achieving defined objectives. For this reason confrence speaking must utilize basic public speaking roles to accompolish the desired end. Therefore, a series of complex skills must be aquired to provide the direct personal contact required to deliver the message.[2]

In the pursuit of effective presentation, modern communication guidelines seem to indicate that it is more effective to concentrate on the proofs of one's own point of view rather than to present both sides of an issue. Aristotle in his study of communication defined rhetoric as ".... discovering in the particular case what are the available means of persuasion."[3] He held credibility, the ability to shape a message in its most persuasive form for a given audience, as the speaker's most important attribute. He belived that rhetoric should express itself through the speaker's character, ability to evoke the desired emotional response in the audience, and the proof, or apparent proof, of the speaker's claim. All available evidence seems to support Aristotle's belief that persuasion is more likely to be achieved when people like, trust, and have confidence in the persuader.

2. c. NADE 84

How do you determine on whom you will rely? Most likely, the presence of certain qualities will make the possessor a high credibility source. Although there are differences in opinion on what these qualities should be, most analyses include character, personality ,competence and intention. The way of effectively communicating the message, then, becomes a key to its acceptance as a quality presentation. The speaker, therefore, must decide whether his audience will more readily accept the argument by implication or by explicit message.

Because the communication process is considered to be most effective in a face-to-face setting, nonverbal stimuli and the opportunity for imm-- diate verbal feedback act as indicators of understanding or confusion, agreement or disagreement, thereby influencing both the speaker and the audience.[4] The more sophisticated the audienced, the more understanding, knowledgeable and articulate must be the speaker. Not only must the right words be selected but also the correct tone, order, and emphasis to convince and motivate the audience must be established. Of course, the more that is known about the audience, the more accurately their reactions can be measured. This is probably the most valuable communication skill a speaker can possess. However, since no two individuals see the world in exactly the same terms, the problem of interpretation becomes the sender's concern. To achieve the greatest understanding and minimize ambiguity, especially with a large audience, the more simple, direct, and conventional should be the language and illustrations. The simple, direct, conventional approach, however, is not always the most effective means of transmitting the message.

Fortunately, a variety of options is available for situations that clearly demand imaginative, indirect, and unconventional presentations. The use of visual aids, such as chalkboard diagrams and sketches, actual objects or replicas, posters, graphics, such as slides, summary charts, maps, cartoons, illustrations, etc., are options available to promote audience intrest.[5] Also, the speaker's image may be affected by the use of figures of speech — metaphors, similies, parallels, analogies, and even obscenities. Caution is advised in the use of figures of speech because figurative language may confuse listeners. In particular, obscenity may offend even though that language may not be uncommon to the listeners. To avoid audience disapproval, careful audience analysis should be undertaken before obscenity is used.

Other forms such as group discussions, questions and answer series, role playing, skits, poetry, and music often enliven audience enthusiasm and approval of the speaker. To instill the desired intent in the listener's mind, the format employed often determines the effectiveness of the message and arouses audience intrest. However, it may not always be possible to win over an audience. Even though the message is delivered in rhetorical splendor, if the listeners' state of mind is resistant to the speaker's message, there is no way to compel the listeners' acceptance.

In addition to the message form, the sender's verbal and non-verbal symbols can convey the desired meaning to the receiver. These interactions between speaker and listener can result in a complementary relationship if the verbal and non-verbal behaviors have been consciously calculated and transmitted through appropriate symbols. The reciever of the message, therefore, must be considered an active participant into whom

the meaning is instilled, and the sender's task is to send the message in the form which will not only elicit a favorable response from the receiver but will also motivate the receiver to pay attention. This desired response serves as feedback to the speaker and establishes a rapport between them. Although it is perfectly possible to communicate without feedback, it is a valuable gauge for the communicator to determine audience reaction.

It is obvious that effective delivery takes careful planning and practice. The following basic principles of delivery provide ways to improve your presentation skills:[5]

1. Make your information relevant to the audience. Think about what you are saying. Speak ideas rather than words.

2. Strive to make your speech a dialogue. Use direct eye contact and a conversational approach. Get involved with your audience.

3. Analyze and adapt to your audience. Change your pace, volume, pitch, gestures, etc., as cues from the audience indicate.

   Remember that the audience is made up of people who need to feel that they are a part of the process.

4. Use your body and your voice to reinforce your ideas. Let your gestures flow naturally, thereby avoiding affectation.

5. Make your message the focus of attention rather than calling attention to yourself.

6. Exhibit enthusiasm and excitement about your subject.

7. Practice frequently by rehearsing your speech. Use a tape recorder to hear, evaluate, and improve your speech and its delivery.

Margaret Mead writes about still other dimensions of making effective presentations:

> The good confrence participant must...enjoy multisensory cues...He should enjoy attending to several levels at once, what is being said, what is not being said that one might expect to have been said, what other meanings are being carried by cadence and pace, what types of images underlie an utterance, how an utterance parallels in some way a previous utterance, how tone of voice reinforces the manifest content or negates it...
>
> The confrence style of discourse has to be attended to as if it were simultaneously exposition and poet, denotative and evocative, and such multiple attention must be sufficiently congenial so that the participants feel enhanced by participation, rather than diminished

and fatigued.[7]

Educators will find themselves increasingly involved in group process involving participants of different cultures and backgrounds, and with varying sensibilities. The participant must adapt and adjust to what is going on, must maintain a high degree of concentration, and must display such virtues as attentiveness, cooperation, and the ability to disagree on issues without involving personalities. The guidelines and suggestions presented here on the principles of effective communication, organization, rehersal, and accompolishing those things that generate self-confidence should prove helpful in making quality presentations. The great equalizer is experience, which should develop the positive emotional attitudes of a good speaker: enthusiasm, sincerity, and conviction.

5. c. NADE 84

NOTES

[1]Kelly, Win, The Art of Public Address, Dubuque, Iowa, Wm. C. Brown Company Publishers, 1965, pp. 7 & 8

[2]Koehler, Jerry W. and Sisco, John I., Public Communication in Business and the Professions, St. Paul, Minn., West Publishing Co., 1981, pp. 9 & 10.

[3]Aristotle Rhetoric 1, 1335, from Lane Cooper the Rhetoric of Aristotle, N.Y., Appleton-Century-Crofts, 1932, pp. 7.

[4]Koehler/Sisco, pp. 15.

[5]Reid, Loren, Speaking Well, New York, McGraw-Hill Book Company, 1982, pp. 210-218.

[6]Leth, Pamela C. and Leth, Steven A., Public Communication, Brooks/Vogel Series in Speech Communication, Menlo Park, Calif., Cummings Publishing Company, 1977, pp. 46.

[7]Mead, Margaret and Byers, Paul, The Small Confrence: An Innovation in Communication, Paris, Mouton & Co., 1968, pp.19.

GUIDELINES ON RUNNING CONFERENCES

by Valeriana Brown, Ph.D.

Minneapolis Community College

Running a conference requires that several components be planned carefully. Three major conference components can be identified:

1) Program
2) Location
3) Logistics

Everyone of these components has to be thouroughly planned. This means the planning has to address the smallest details, no matter how insignificant they might seem.

Planning a conference is team work, and every member of this team has to feel that his/her work is crucial, because it is. The planning process for each of the above components has to identify tasks, set a timeline to accompolish the tasks, and assign the tasks to team members. All of this done in an ordely fashion will gaurantee a successful conference.

Let us now address each of the components.

1. Program

The organization of the conference program is crucial. Usually the program is organized around a topic ot theme. What are then the major factors in choosing a conference topic?

—Timeliness and relevence to what is happening in the field seem to be very important, since it will be the "eye-catcher" for participation.

--Audience - determine what audience(s) the conference will attract and accordingly develop the topic. If the conference is for practitioners in the field have sessions of revelence to them, if it is for administrators, have sessions that will appeal to them. If the audience is varied, then include a variety of sessions. A note of caution - if you cannot attract a significant number in each group, then you might want to address only one group (this is important for local conferences or workshops).

--Geographical location - what might be a "hot" topic in Texas, might not serve the needs of Ohio.

The selection of a topic might require a fromal or informal needs assessment, whether it is a local or national conference you are planning.

Once a topic is chosen, then the program can be developed from the "naturals" of the topic or a call for papers if this is a conference for 300 or more people. Either way spearkers who can address the topic have to be selected. The selection of speakers is usually done by speaker reputation, word of mouth, experts in the field and sometimes unknown speakers who seem to have a good presentation. However, some reputable speakers will help your conference.

2. Location

The choice of location has to be easily accessable to as many potential participants as possible.

For a large conference consider the cost of air travel from different departure points, accessibility of nearest airport, parking arrangements popularity of the site, adequate facilities, and cost of hotel and food.

When selecting a hotel inquire about:

- experience of hotel staff in running a conference.
- previous clients (check with them about quality of service)
- experience in handling a group of your group's size
- discount on room rates (at least 20%)
- complimentary room (usually for each 50 rooms one complementary room)
- free meeting space if you hold at least one meal event
- advance registration service
- room size/set up
- free parking
- accessibility to food and entertainment
- limousine service to and from airport
- weekend rates for conference participants

3. Logistics

The logistics of a conference such as meeting rooms, equipment (AV and other), schedule of conference, pre-conference workshop, tours, entertainment, selection of menus, arrival and departure times, transportation to and from airport, conference publicity are very important to the smooth running of a conference. Logistics of a conference involve many details. It is easier when several members of the conference planning team take the responsibility for some of the logistics of a conference are going to enhance or hinder your program. It is CRUCIAL that they are carefully planned and followed through.

Once the program and location are decided the following arrangements need to be made.

- Publicity - publicizing the conference is obviously of exterme importance. Brochures are the most common publicity item. A brochure is going to let the potential attendees know about your conference. Make it concise but complete. This means location, dates, cost of registration and hotel, program, other events, contact person(s) should be included.

How to publicize your brochure?

For local conferences - mail to local colleges, local newspapers, local news-letters, local radio and personal contact with local members. For national conferences - association newsletters, journal advertisements, bulk mailing, PR at related conferences, mailings to college presidents and deans.

- Meeting rooms — your program will dictate how many and what size rooms you will need. (work closely with hotel staff)
- Equipment -- ask your speaker what they need (overhead projectors, slide projectors, flip charts, markers, computers, etc.) Hotels usually rent or provide equipment.

- Tours and educational visits -- visits to neighboring college programs historical tours some event emphasizing local culture. Contact the college staff for necessary arrangements to visit. For Historical tours and cultural events contact the Chamber of Commerce.

- Entertainment and Hospitality Suite -- These are extras that promote a good conference climate. They allow for interaction among participants, exchange of ideas, and a cohesion among members. Some ideas on entertainment -- have folk singers or a dance as part of the program; have participants organize an entertainment evening; or arrange for a dinner/show event.

- Ground transportation -- inquire if hotel provides this service and let participants know ahead of time.

- Meals -- the selection of menus does not need to be ostentatious, but varied and appealing (hotel staff are usually helpful). If you are planning a local one day workshop -- use a box lunch -- it saves time. Coffee breaks also need to be included.

- Cost -- This is an important item. If you do not have any subsidy to run the conference, workshop, the registration fees will have to cover speaker expences, brochures, mailings, coffee breaks, and any other meals that are included in the program. The cost is divided into two catagories, fixed costs and changable costs. The speaker, brochure, mailings, are fixed costs because whether there are 20 participants or 200, this expenditure does not change. Meal costs vary depending on the number of participants. This determines how many participants are needed to break even or make a profit whichever is the goal of the conference.

Sometimes local companies or industries will sponsor an event or coffee break in exchange for an exhibition space or publicity of their brochure.

- Name tags and folders -- Have name tags and folders ready for each participant to pick-up at registration. Folders - should include an updated conference program, information on resteraunts, entertainment, cultural events and historical background on the area where conference is held. Sometimes publishing companies will provide brochures with information on recent publications. It is helpful to include blank sheets of paper and a pen.

- Exhibition -- exhibits of materials help give the conference or workshop the feeling of "in the now". Exhibitors usually will sponsor events or provide materials to participants.

A check list is provided for easier planning of logistical details, also a sample evaluation form is included, which can be modified depending on the nature of the conference.

CHECKLIST FOR MEETING AND
CONFRENCE PLANNING AND ARRANGEMENTS

Individual Responsible	Item	Notes of Comments
	FACILITIES	
_____	Hotel _____ Contact person _____	
_____	Location _____ Date(s) _____ Time _____	
	Speakers	
_____	Name, address, and phone number list _____	
_____	Initial contact _____	
_____	Confirming received _____	
_____	Lodging confirmed _____	
_____	Fees and travel expenses confirmed _____	
_____	Fees and travel expenses paid _____	
_____	Audio-visual needs determined _____	
_____	Biographies requested (photo?) _____	
_____	Other special arrangements _____	
	Meeting Rooms	
_____	a. Main meeting room _____	
_____	Optional rooms _____	
_____	Cost _____	
_____	Lighting _____	
_____	Equipment _____	
_____	Size _____	
	b. Small meeting rooms _____	
_____	Optional rooms _____	
_____	Location _____	

Facilities (Continued)

_____ Cost _____

_____ Number _____

_____ Table & chairs _____

_____ c. Exhibit area _____

Guest Rooms

_____ Complimentary rooms _____

_____ Number of each quoted figure _____

_____ Flat rate _____

_____ Any special rate _____

_____ Guarantees needed _____

_____ Checkout time _____

_____ Payment allowed (credit card, etc.) _____

Food Service

_____ In hotel _____

_____ Adjacent _____

_____ Menus _____

_____ Guarantees _____

Meeting Service

_____ Ice water _____

_____ Coffee _____

_____ Security (lockup, etc.) _____

_____ Contact person _____

_____ Lighting control _____

_____ Heat control _____

Facilities (Continued)

Registration Facilities

_____ Proximity to main entrance _____

_____ Equipment available _____

Transportation

_____ Courtesy service to airport _____

_____ Parking area _____

Special Equipment

_____ Audio-visual materials available _____

_____ Telelecture potential _____

_____ Computers _____

Traffic Flow (Foot)

_____ Access to main meeting room _____

_____ Access to small rooms _____

_____ Location of rest rooms _____

Audio-Visual Needs

_____ PA system _____

_____ Lectern(s) _____

_____ Screen(s) _____

_____ Chalkboard, chalk and erasers _____

_____ Chartboards _____

_____ Overhead projector(s) _____

_____ Slide projector(s) _____

_____ Movie projector(s) _____

_____ TV viewer(s) _____

_____ TV tape recorder(s) _____

_____ Flannelboard(s) _____

_____ Extension cords (3 wire) _____

Audio-Visual Needs (Continued)

_____ Felt pens (variety of colors) _____

_____ Transparency markers (variety of colors) _____

_____ Tables - for exhibits _____

_____ Tables - for setting up presentation _____

_____ Tables or stands for AV equipment _____

_____ Paper and pencils _____

_____ Spare parts (each piece of AV equipment) _____

REGISTRATION

Pre-registration

_____ Solicitation of participants _____

_____ List of participants _____

_____ Packet for mailing _____

_____ a. Hotel registration forms _____

_____ b. Room selection and rates _____

_____ c. Address and phone _____

_____ d. Location map and instructions _____

_____ e. Registration fee _____

_____ f. Local intrest items _____

_____ g. Time and place of registration _____

_____ h. Registration deadline _____

_____ Fee receipts _____

_____ Name tags _____

_____ Meal tickets _____

_____ Confrence programs _____

Pre-registration (Continued)

_____ Register those not pre-registered _____

_____ Extra pre-registration packets _____

_____ Facilities map _____

_____ Special events program _____

_____ Clerical help _____

_____ Greeter - host _____

_____ Chamber of Commerce packet _____

_____ Participant workshop folder _____

_____ Cancelations _____

_____ Late arrivals _____

PERSONNEL

_____ Registration clerks _____

_____ Registration greeter - host _____

_____ Audio-Visual attendent _____

_____ Meeting room help (lights, heat, clean-up) _____

CONFRENCE OPERATION

_____ Opening _____

_____ Greetings _____

_____ Introduction of speaker(s) _____

_____ Operation of TV viewer _____

_____ Menus (Lunch and Dinner) _____

POST CONFRENCE

_____ Departure schedules _____

_____ Transportation to airport _____

_____ Confrence evaluations _____

_____ Mailing lables for all participants _____

_____ Mailing materials to participants _____

Post Confrence (Continued)

_____ Retrieval of lost property _____

_____ Summarize and pay all expenses _____

_____ Return rented equipment _____

_____ Return borrowed equipment _____

PROGRAM EVALUATION: A PRIMER

by Darrel Clowes & Belinda Anderson

Virginia Tech

AN EVALUATION PRIMER

Darrel Clowes with Belinda Anderson

This short piece is intended to provide people working in developmental education a brief introduction to the complex topic of evaluation, some "first principles" behind the paradigm set forth for evaluation of developmental programs, and guidance in the first steps necessary to set up the evaluation procedure. Evaluation of educational programs once was seen as an application of the scientific paradigm where the desired ends were known, measurable goals were established for the activity, and evaluation consisted of measuring goal achievement against goals established. This model assumed that goals were known and agreed upon by all the members of the institution and that the goals set were subject to accurate measurement. Gradually evaluation workers became convinced that agreement on goals was a rare phenomena within an institution and that establishing precise measures for unclear goals was disfunctional. Alternative evaluation paradigms were developed that did not assume concensus on goals but rather allowed the evaluation process to modify declared goals or to provide insight into the actual goals achieved by the educational activity (see Clowes, 1981 for a fuller discussion of this literature). This primer will arbitrarily adopt one evaluation paradigm and set out its underlying assumptions and limitations; the reader must be aware that many alternative models exist.

FIRST PRINCIPLES

The "first principles" behind the evaluation paradigm for developmental programs set forward here illustrate the assumptions underlying the evaluation described. The paradigm and its assumptions represent conservative programatic goals and evaluation strategies that should provide a reasonable base for evaluation of any developmental activity and for the use of the evaluation results. The first assumption is that the function of the developmental activity is to remediate students' academic deficiencies so that students may function successfully in the mainstream curriculum courses of the institution. Academic concerns for adequate basic skills development and protection of the quality of the mainstream curriculum are accepted as the paramount institutional concerns and the dominant concerns of the developmental activity. Concern for the psychological and social development of the individual student and their integration into the institution are not the primary focus of the developmental effort (for further discussion of this distinction in programatic thrust see Cross, 1976; Roueche and Roueche, 1977; Roueche and Snow, 1977; and Clowes, 1979).

A second principle or assumption follows from the first. If the primary goal of the developmental activity is accepted as preparation for success in the mainstream curriculum, then the evaluation of the developmental effort must occur in two parts. First, the support lab activities, the developmental course work, or the work in a self-contained developmental program must be seen as a single level of activities that occur conceptually prior to entrance into the mainstream courses. Evaluation of

I. c. NADE 84

these activities is useful, but utility comes in terms of formative evaluation designed to improve the level of academic skill development within the specific support lab activity, the course work, or the total program. Evaluation of this segment of the developmental activity produces information useful for the improvement of specific educational activities. Second, assessment of the effect or success of the developmental activity must be made in terms of the success students experience in making the transition from the developmental program to the mainstream curriculum, from specific developmental (basic skills) courses to the related advanced basic skills courses of the mainstream curriculum, or from the support-lab based activities to the related mainstream advanced basic skills courses. Given the paradigm used here, effectiveness for the developmental program means student success in making the transition from developmental activities to successful completion of the related mainstream courses and ultimately success in completing their program and graduating from the institution. This second principle of evaluation in stages is critical. Separating evaluation of what occurs within the developmental activity from evaluation of what occurs after the transition from the developmental activity to the mainstream curriculum allows a focus upon each stage. Evaluation of the first stages provides information useful for improving the instructional design of the developmental activity but not useful for assessing the effectiveness of the developmental effort. Evaluation of the next stage - transition to the mainstream curriculum - provides information useful for assessing the effectiveness of the developmental program in preparing students to survive in the mainstream of the institution but not particularly useful for determining changes in the instructional program.

A third principle is to use quantitative and readily available data. Quantitative data is numeric data represented by test scores, course grades, persistence rates and various other measures of academic achievement and persistence. Quantitative measures are used because they are easy to work with, communicate clearly to many people, and have a face validity that gives credence to early evaluation efforts. When the evaluation process matures, qualitative data can be introduced to allow new forms of input, to cope with areas difficult to measure, to allow the introduction of subjective data, and to assist in developing insight into operative goals of a program. The quantitative data used in this model exist in the institution and can be easily obtained. Demographic data on students are contained in the student record files; achievement measures exist in student records, in departmental records or testing offices, and measures of persistence at the institution exist in the student transcript file maintained in the registrars' office. The use of readily available quantitative data allows the initial evaluation effort an opportunity to make its first contributions without imposing serious data collection demands upon the institution. Using existent data also allows time in which to establish the real needs for additional data and to plan the opportunities and instruments needed to obtain it.

A fourth principle is to assume multiple audiences for the evaluation data generated. Faculty and staff working in the developmental activity will be particularly interested in evaluation of the activities internal to the developmental effort, faculty and administration involved with the mainstream courses will be particularly interested in the second stage of

transition into the mainstream courses and curriculum, and administrators will be particularly interested in the cost-effectiveness data. This paradigm attempts to provide basic evaluation data of interest to each of the primary constituencies within an academic institution.

The final principle is to take a modest stance and not attempt to relate the evaluation effort to the achievement of goals that are not easily agreed upon or goals whose achievement is difficult to measure. Modest goals such as completing developmental classes with a grade of "C" or better or attending a learning support center for a specified number of sessions or over a specified time are goals easily accepted and understood for the assessment of a developmental activity. Persistence in the next related mainstream course and completion of that course with a "C" or better is a readily accepted measure of the transition stage. Completion of a specified number of credits after the developmental activity or persistence to graduation are also easily accepted goals. Less acceptable goals are abstractions like improving motivation, self-image or concept, or assisting the student to make appropriate career and life choices. The developmental goals are no less desirable as program goals; however, they are far less readily acceptable or measurable. They are not appropriate goals for the early efforts at evaluation. They have a place, but that place is much later in the development of a full evaluation process (for a further elaboration see Clowes, 1981, 1984).

FIRST STEPS

Like Caesar's Gaul, this evaluation paradigm is divided into three parts: evaluation of the developmental activity itself; evaluation of the transition to the mainstream curriculum; and evaluation of the cost-effectiveness of the developmental activity.

EVALUATION OF THE DEVELOPMENTAL ACTIVITY

The developmental activity must first be stipulated to make clear the parameters of the activity to be evaluated and to inform estimates of reasonable success. Catagorization is helpful. Is the developmental activity a series of support labs and/or tutorial activities operating to support concurrent mainstream courses? If so, the activity has a "loose" relation to the academic mainstream of the institution. If the activity consists of a series of separate courses available for the student but offered by the various academic departments, then the activity has a "close" relationship to the academic mainstream. If the program is a separate body of courses and labs with a separate faculty and requirements for completion before the student enters the mainstream courses, the activity has a "tight" relationship to the mainstream. Control over the developmental activities and accountability for program success vary directly with "tightness" in this model. A "loose" program has less opportunity to impact the student in the program and more competing pressures influencing the student than does a "tight" program. Defining the students in the developmental activity is also affected by this categorization. In a "loose" program developmental students are those

participating in any support lab or tutoring activity. This is a weak definition since students will have degrees of program involvement with enormous variation; this is reflective of the weak relationship between the program, the student, and the mainstream academic programs. Evaluation is especially unreliable in this situation because of the tenuous relationships among the activities, the students, and the curriculum. The "tighter" the activity, the clearer the definition of the developmental student and the relationships within the curriculum become.

Measures must next be identified first to describe the developmental students and compare them to the general population and second to assess achievement within the developmental activity. A program ought to know who it is serving and if this client group is representative of the total population at the institution, a special sub-group, or a unique and otherwise unserved group. Information of this sort has profound bearing upon an evaluation of program goals. Routine data can be gathered from the registrar's office on standard demographic variables like age, race, sex and possibly enrollment status (part-time/full-time) and high school curriculum (vocational, general, academic). Data on testing programs for basic skills can be gathered from departmental or college level offices. A comparison for goodness of fit between developmental students and all students at the institution yields useful information. Achievement within the developmental activity can be assessed using three existent measures: grades in developmental courses, persistence to completion in developmental courses and in mainstream courses (if taken), and a calculation each term of hours attempted/hours earned. There three measures will provide basic information on the progress of students within the developmental program. Additional measures can easily be added. Identifying students by identified areas of basic skill deficiency can be helpful. Math, reading, writing, and study skills are traditional basic skill areas. Tracking students with only a math deficiency or only a reading deficiency may reveal differential rates of success in the program and suggest program improvements. Alternatively, combinations of deficiencies might be looked at to determine rates of success. Do students with writing deficiencies usually also have reading problems? Do students with multiple deficiencies (math, reading, and writing) have a rate of success different from those with only a single basic skills deficiency? These questions can easily be asked and the information used to reassess the instructional program within the developmental effort. Parenthetically, pre- and post-test scores are not recommended as measures at this point. Gain scores over a ten to fifteen week term are questionable at best, and the relationship between gain scores and the ability to succeed in the academic mainstream is inconclusive and varies by institution (Richardson, Fisk and Okun, 1983).

EVALUATION OF THE TRANSITION TO THE ACADEMIC MAINSTREAM

The transition to the academic mainstream varies with the developmental activity category. A "loose" activity will have the student taking mainstream courses concurrent with the developmental activity. In this situation the transition occurs within the same term as the developmental activity. The transition must be assessed by identifying the developmental students, identifying the mainstream courses in their area(s) of basic

skill deficiency in which they have enrolled, and tracking their achievement in that course or courses as measured by course completion and course grade. A measure of hours attempted/hours passed for the term will give a more general measure of success in the transition. Assessment of the transition is cleaner with the "close" or "tight" developmental activity. The same basic evaluation design is followed, but the dividing line between the developmental activity and the mainstream is clearer. It is also easier to refine the assessment by again identifying areas of deficiency and following student success by area or as a function of combinations of basic skill deficiencies. These measures will provide evaluations of the developmental activity one, two, three or more terms after a student is admitted to the institution and enrolled in developmental activities. Further data can be gathered by accumulating grade point averages and rates of graduation or program completion. These data are useful for determining the effectiveness of the developmental activity in moving students assigned to developmental work into the mainstream curriculum and through the institution.

A caution. when an evaluation program as set forth here is in place and the data described here is gathered, the real task is only begun. With both formative information on the developmental activity and summative information on the transition phase, the serious work can begin. Once you know the level of success of a program given the goals set in this paradigm, the real question is "are those goals appropriate for this program and this institution?" Now the true purpose of program evaluation comes to the fore as a reassessment of curriculum goals and as a starting place for the curriculum development process. A further reading in the evaluation literature (see bibliography) will show alternative evaluation models and measures which might be introduced to improve or replace the paradigm set forth here.

EVALUATION OF COST-EFFECTIVENESS

Cost-effectiveness here is used in its simplest sense to assess whether the developmental activity is self-supporting. Institutions with good management information systems would already have this information, so the intent here is to provide a reasonable approach for gathering and expressing cost effectiveness data for institutions without existent management information systems. The first step again is to categorize and define both program and students on the "loose," "close," and "tight" program pattern described earlier. A "loose" program would have little opportunity to produce revenue since student credit hours are not often generated through support lab or tutorial activities and fees are not usually charged. For some "loose" programs and all other developmental activities, the data collection and display described should yield useful and useable results. Once student credit hour enrollment in developmental activities is established, a calculation of gross revenue generated can be made. Credit hours generated in developmental activities can be projected into revenue earned from tuition charged students, specific fees associated with developmental activities, and state and local support. Special funding support through grants and other support from external sources can

than be added. Together these monies represent the gross revenue of the developmental activity. Direct and indirect costs are then determined and subtracted from gross revenue to determine the net revenue generated (if any) by the developmental activity. Direct costs are instructional costs. The usual method is to determine the number of sections taught by full-time faculty and the number taught by part-time faculty in an academic year. The cost per full-time faculty section is the average faculty salary (not including fringe benefits which are covered in indirect costs) divided by the average number of sections taught by a full-time faculty member in an academic year. The average cost of a part-time section can be obtained from the department head or dean. The same source can supply an actual or estimated cost for instructional supplies for the developmental activity for the academic year. Combined these data represent the direct instructional costs of the developmental activity. Indirect costs are the apportioned costs of operating the total institution. General estimates of indirect cost have been developed over the years; a range is presented here. A conservative estimate of indirect costs is 80% of direct instructional costs for a program; this estimate would provide the most positive assessment of cost effectiveness. An average estimate of indirect costs in 100% of direct costs and a high estimate would be 110%.

Cost effectiveness in this model is determined in a conservative manner by calculating gross revenue generated by the developmental activity, subtracting calculated direct costs and estimated indirect costs of the activity, and expressing the remainder as the net revenue generated or the cost incurred by the developmental program. This calculation takes no note of the revenue generated by students who successfully make the transition into the curricular mainstream. From the evaluation information generated earlier a reasonable case can be made that some students would not have persisted in the institution without assistance from the developmental activity. Thus an informed estimate of the proportion of transitioning students' credit hours attributable to the successful working of the developmental activity can be made. A conservative estimate of 5-10% of the average credit hours generated by students who successfully complete the transition would seem reasonable and politically defensible as an addition to gross revenue. Most programs will show significant net revenue generated without the addition of an estimate of successful transition student's contribution, but that addition is available if desired.

CONCLUSION

This primer is intended to provide guidance in establishing an evaluation program. It is designed as a general model useful for most institutions and taking the most conservative positions on program goals and the measures used to assess those goals. This model or paradigm has two distinctions. First, it separates the evaluation effort into three phases: a formative evaluation phase that focuses upon the developmental activity itself; a summative phase that focuses upon the transition into the mainstream curriculum; and a cost effectiveness phase. Second, this model posts arbitrary goals for the developmental activity. These goals are associated with a remediation emphasis and an emphasis upon academic

quality concerns at the institution. While these goals are generally present in all institutions, the priority and combination of goals may not be appropriate. An assumption behind this paradigm is that an institution will gather data as set forth here but will then use that information to redesign the goals and or the evaluation activity to better accommodate its own unique reality.

REFERENCE LIST

Clowes, D.A. (1980). More than a definitional problem: remedial, compensatory, and developmental education. Journal of Developmental and Remedial Education, 4(1), 8-10.

Clowes, D.A. (1981). Evaluation methodologies for learning assistance programs, in C. C. Walvekar, (Ed.) Assessment of Learning Assistance Services. (pp. 17-32). New Directions for College Learning Assistance, Number 5, San Francisco: Jossey-Bass, Inc.

Clowes, D.A. (in press). Evaluation of developmental programs: a stage model. Journal of Developmental and Remedial Education.

Cross, K. P. (1976). Accent on Learning. San Francisco: Jossey-Bass, Inc.

Richardson, R.C., Fisk, E.C., Okun, M.A. (1983). Literacy in the Open-Access College. San Francisco: Jossey-Bass, Inc.

Roueche, J.E. and Roueche, S.D. (1977). Developmental Education: a Primer for Program Development and Evaluation. Atlanta, Ga.: Southern Regional Education Board.

Roueche, J.E. and Snow, J.J. (1977). Overcoming Learning Problems. San Francisco: Jossey-Bass, Inc.

EVALUATION OF DEVELOPMENTAL ACTIVITIES

A SELECTED BIBLIOGRAPHY

Astin, A. W. (1977). Four Critical Years: Effects of College on Beliefs, Attitudes, and Knowledge. San Francisco: Jossey-Bass, 1977.

This work reports the results of a ten-year longitudinal study on student development conducted by the Cooperative Institutional Research Program of the American Council on Education. It provides detailed information on the impact of college attendance on student values, attitudes, self-concept, achievement, and career development.

Dressel, P. L. (1976). Handbook of Academic Evaluation: Assessing Institutional Effectiveness, Student Progress, and Professional Performance for Decision Making in Higher Education. San Francisco: Jossey-Bass.

A major benefit of this book is its emphasis on evaluating student services agencies and thus affective influences in higher education. this book also emphasizes the relationship of political issues to evaluation. The section on evaluating the learning environment is especially helpful.

Guba, E. G., and Lincoln, Y. S. (1981). Effective Evaluation: Improving the Usefulness of Evaluation Results Through Responsive and Naturalistic Approaches. San Francisco: Jossey-Bass.

This is an argument for the use of naturalistic inquiry methods where they are appropriate. The review of evaluation as a field is exceptional and prepares the base for supporting responsive evaluation as the approach of choice. The arguments are lucid and often elegant, the distinctions helpful, and the writing clear. Here one finds excellent minds engaged in a fascinating and yet practical probing of the purpose, limits, and proprieties of evaluation.

Maxwell, M. (1980). Improving Student Learning Skills. San Francisco: Jossey-Bass.

This book is an excellent overview of basic skills work in the four year college and university setting. The chapter on evaluation is notable for its practical approach and its emphasis upon the political purposes of evaluation.

Newman, J. E., and Hinrichs, J. R. (1980). Performance Evaluation for Professional Personnel. Scarsdale, N.Y.: Work in America Institute.

Reviewing current literature, the author defines and describes the purposes of performance evaluation, addresses the issue of evaluating professionals, describes facets of performance evaluation, and discusses the feedback process. The second half of the book contains abstracts of articles written on performance evaluation.

Patton, M. Q. (1980). Qualitative Evaluation Methods. Beverly Hills, Calif.: Sage.

Patton provides an excellent guide to both when and how to use qualitative methods. The sections on evaluation design and on the nature of qualitative data are especially helpful. This book then carries through the implementation stage with sections on collecting and analyzing qualitative data. A real strength is the light writing style and brilliant use of parables as chapter beginnings.

Popham, J. W. (1975). Educational Evaluation. Englewood Cliffs, N.J.: Prentice Hall.

This book traces the historical development of educational evaluation and describes major evaluation concepts and terms. The author categorizes evaluation designs using a very understandable system. Chapters on criterion-referenced measurement and affective

measurement are quite helpful. Popham's easy style of writing makes this book a delight to read.

Smith, H. P., and Brouwer, P. J. (1977). Performance Appraisal and Human Development. Reading, Mass.: Addison-Wesley.

Focusing on utilizing human talent effectively, this book discusses the psychological aspects of performance appraisal. It provides information on the principles of human growth and development and how these principles relate to performance appraisal. Sample performance appraisal interviews are included to demonstrate effective techniques for managers.

Sullivan, L. L. (1979). Sullivan's Guide to Learning Centers in Higher Education. Portsmouth, N.H.: Entelek.

This is a report of a survey of learning assistance centers in postsecondary institutions in America and Canada. Its strengths are a good response rate (about 50 percent) and volumes of data arranged in every conceivable way. This study updates Devirian's 1974 study and provides baseline data. Its weaknesses are a lack of definition of learning assistance centers, which clouds the findings; poor descriptions of the methodology so independent interpretations are impossible, and lack of extensive interpretation of the data.

Trillin, A. S. and Associates. (1980). Teaching Basic Skills in College. San Francisco: Jossey-Bass.

This book contains a chapter on evaluation very helpful to experienced practitioners working with an established program. A number of evaluation options are addressed and critiqued. Design and measurement issues are raised and related to various evaluation options.

Walvekar, C. C. (Ed.) (1981). New Directions for College Learning Assistance: Assessment of College Learning Assistance Services, No. 5. San Francisco: Jossey-Bass.

This edited collection ranges from "how to" chapters to theoretical chapters on the evaluation of learning centers. Although not systematic, it is a good source of ideas and examples. It is one of the few works addressed specifically to this topic.

NOTE: Several of these annotations are drawn from pages 113-115 of the Walvekar volume.

CRITICAL ISSUES FACING DEVELOPMENTAL EDUCATION: A SURVEY

by Darrel Clowes

Virginia Tech

Critical Issues and a Research Agenda for Developmental Education

Darrel Clowes, Chair
Research and Evaluation Committee, NADE

Introduction

Developmental education faces troubled times. Where the seventies saw an emphasis on increased access to higher education and active federal and state support of post-secondary developmental education, the eighties have brought an emphasis on academic quality at the expense of access and curtailed support of developmental education. Throughout the seventies pleas for meaningful research and evaluation went unheeded, but now the demands for both are enormous. Research reports are emerging; they range from positive (Boylan, 1983) to mixed (Kulik, Kulik & Shwalb, 1983) to negative (Richardson, Fisk & Okun, 1983) assessments of post-secondary developmental education. The Executive Committee of NADE has moved to address this situation on several fronts. As one part of that effort the NADE Research and Evaluation Committee was asked to address information needs of developmental programs by producing An Evaluation Primer (Clowes & Anderson, 1984) and by developing a "research agenda of critical issues in developmental education." This paper reports the results of a questionnaire survey administered in Winter 1984 and its use in identifying critical issues and a research agenda.

Purpose

The purpose of this study was to identify the critical issues facing developmental educators and from the identified issues to develop a research agenda. The population of developmental educators chosen for the study was the membership of NADE. The sample was the membership of the Research and Evaluation Committee and the Executive Committee as two groups representative of the membership but particularly attuned to issues and research concerns. Therefore this study was designed to identify the critical issues for developmental education as perceived by professionals active in the field. The author then used the identified critical issues to prepare a research agenda.

c. NADE 84

Methodology

Sample

The population of interest was developmental educators as represented by the membership of NADE. The specific sample used was a combination of the 32 member Research and Evaluation Committee (R & E) and the 6 member Executive Committee of NADE. The R&E membership has one representative from each state affiliate plus a core of voluntary members. These individuals are geographically and professional representative of NADE membership (see Table 1). They also have some claim to special interest or knowledge in research concerns. The Executive Committee is elected from the general membership and therefore should "represent" that group; they also have special experience helpful in identifying critical issues because of their roles with NADE. Thus the total sample was selected to be representative of NADE but with special expertise in the area of interest.

While the assertion that the sample selected is representative of the NADE membership must be accepted at face value, Table 1 shows that the respondents are similiar to the non-respondents in the sample. The Chi-square test showed no statistically significant differences between respondents and non-respondents among the R&E membership. Twenty of the 32 R&E members returned usable surveys for a 62.5% response rate, 6 of 6 Executive Committee members responded, and the combined response rate was 26 of 38 or 81%.

TABLE 1

Comparison of Respondents and Non-Respondents of Research and Evaluation Committee. (Row Percentage in Brackets)

	Four-Year College Personnel		Two-Year College Personnel	
	Faculty Only	Faculty Administrator	Faculty Only	Faculty Administrator
Respondent	7 (64)	6 (67)	3 (50)	4 (67)
Non-Respondent	4 (36)	3 (33)	3 (50)	2 (33)
	11 (100)	9 (100)	6 (100)	6 (100)

N = 32

X^2 shows no significant differences.

Survey Instrument

The survey instrument used (Appendix A) was developed by the author. It was constructed after a review of the monograph and journal literature and of the ERIC data base Three general areas of critical questions for developmental education were identified: those internal to the program, those external to the program, and justifications for developmental education. A fourth general area on criteria for program evaluation was added to contribute to the Evaluation Pioneer project mentioned earlier. There were six items under each general question except for the program justification question which had eight.

The assumption of validity was supported by all respondents' ability to complete the instrument and the very modest number and rating of items added. Reliability is supported by comparison of responses by the R&E membership and those of the Executive Committee. Responses were scored 1 for "highest priority" to 5 for "lowest priority"; means were calculated for each general question and for each item and then rankings were assigned. For these two groups the ranking of general questions was similar (see Table 2) while the ranking of specific items was very close. The two groups each had eight of their ten highest ranked items in common. A third group was used as a check on reliability. Seventeen graduate students in community college/higher education programs from the author's classes also completed the survey. Although only two of this group had experience with developmental education, seven items from their top ten ranked items were also in the top ten of each of the other groups. Finally, correlation coefficients were calculated among the items under each general question. Three general questions showed strong positive correlations on 3 or fewer of the twenty-one possible pairings; the question on justifications of developmental programs, however, had one-third of its possible pairings with positive correlations. This suggests that the items are generally independent of each other except under the justification question. The items ranked as "above average" priority or higher were independent of positive correlations in all but one instance. Thus an assumption of reliability is supported by a pattern of similiar responses with three different groups and a test for between item correlation that found few and generally unimportant positive correlations.

Analysis

Each item was scored on a 5 point scale by assigning 1 point for "highest priority" to 5 points for "lowest

priority." All calculations were done for the R&E respondents, the Executive Committee, and for a combined sample. Means were calculated for each item and then a mean of all items under each general question was calculated as a mean for the general question. Item means were converted to a priority ranking; all items with a mean of 2.0 (above average priority) or below were accepted as high priority items. General question means were calculated and the general questions were ranked; individual item means were also calculated and the items receiving a 2.0 or less were ranked.

Findings

Findings are presented in three stages. First, means and rankings of the general questions are presented. Second, the ranked items are presented in relationships to their general question, and finally the highest priority items are presented with their means and rankings.

TABLE 2

Rankings and Means of General Questions
(1=highest priority to 5=lowest priority)

General Questions	Research and Evaluation Committee N=22		Executive Committee N=6		Combined N=28	
	Ranking	$\bar{x}$	Ranking	$\bar{x}$	Ranking	$\bar{x}$
What internal critical questions confront developmental programs? (6 parts)	1	2.17	2	2.06	1	2.15
What criteria are appropriate for evaluation of developmental programs? (6 parts)	2	2.23	3	2.18	2	2.22
What external questions confront developmental programs? (6 parts)	3	2.40	1	1.83	3	2.28
What are the justifications for a developmental program? (8 parts)	4	2.73	4	2.25	4	2.63

Table 2 shows the rankings and means of the general questions. This table reveals three striking aspects of this survey. The general question on criteria for evaluation was included primarily to gather information for another project, yet the respondents gave it very high priority. The overall second ranking mandated this question and its associated items not be excluded from the analysis. Next, there was a real difference in the rankings given by the two groups in the sample. Both the R&E respondents and the Executive Committee gave the justification question area least priority; apparently professionals feel less need to justify developmental programs. Both groups put internal questionis ahead of evaluation criteria as priority areas. The Executive Committee, however, saw external concerns as much more important than did R&E members. Apparently the Executive Committee was more oriented to concerns outside the institution while R&E members showed more concern for internal concerns. Finally, an examination of the means showed the Executive Committee consistently recording lower means; this indicates a generally higher priority given to all items.

Table 3 shows the ranked items arranged by their general question. Three of the four priority ranked items (1, 3, and 4) came under the general question on internal critical questions. Items 1 and 4 both relate to concerns for program quality; they also were the only ranked items

with a strong positive correlation. Although they relate to the same concern and were perceived that way in the survey, they still were given first and fourth priority among the twenty-six items rated. Under external concerns financial concerns were dominant and especially for the Executive Committee members.

Table four shows the priority ranking among the items on the survey. Critical questions of highest priority related to questions of effectiveness of developmental programs and their effect upon overall curriculum quality (Rankings 2, 4, 9 and probably 1), to public policy concerns generally associated with agencies external to the college (Rankings 5, 6, 7 8 and 10) and to institutional priorities (Ranking 3 and possibly 1 and 10).

TABLE 3

Ten Highest Priority Items by Ranked General Questions
(Items number by ranking by all respondents)

First Ranked General Question

What internal critical questions confront developmental programs?

1. Do developmental courses or programs improve basic skills?
3. Do institutional goals and priorities support a developmental program?
4. Does having a developmental program positively effect curriculum quality?

Second Ranked General Question

What criteria are appropriate for evaluation of developmental programs?

2. Persistence in college beyond the developmental program.
9. Basic skill improvement measured by pre- and post-tests.

Third Ranked General Question

What external questions confront developmental programs?

6. Should students without academic skills be admitted to college?
8. Should public monies pay for developmental education?
10. Should developmental programs be cost.effective?

Fourth Ranked General Question

What are the justifications for a developmental program?

5. Insuring academic basic skills training is available for all students.
7. Providing a service to insure access to higher education for minorities, adults, etc.

(Numbers represent items as ranked on priority by all respondents - N=28.)

TABLE 4

The Items Rated "Above Average" Priority by
All Respondents with Mean and Rank.
(Represents 10 of 26 items)

ITEM		MEAN	RANK
3.2	Do developmental courses or programs improve basic skills?	1.28	1
4.2	An appropriate evaluation criteria is persistence after the developmental program.	1.50	2
3.4	Do institutional goals and priorities support a developmental program?	1.62	3
3.5	Does having a developmental program positively effect curriculum quality?	1.72	4
1.3	Insuring academic basic skills training is available for all students justifies a developmental program.	1.746	5
2.1	Should students without academic basic skills be admitted to college?	1.75	6
1.2	Providing a service to insure access to higher education for minorities, adults, etc. justifies a developmental program.	1.78	7
2.2	Should public monies pay for developmental education?	1.817	8
4.6	An appropriate evaluation criteria is basic skills improvement measured by pre- and post-tests.	1.819	9
2.5	Should developmental programs be cost effective?	2.04	10

NOTE: The criteria for inclusion was a combined item mean of 2.0 or less where 2.0 represents "above average priority."

Conclusions

The data collected indicate that concerns for academic quality throughout academe are clearly present among developmental educators. The general questions used may have been mildly misleading. Although internally oriented critical questions were given the highest priority, a careful inspection of the ranked item responses suggests another interpretation. It appears that external agencies - usually state governing or coordinating bodies - are the source of most critical questions now facing developmental education. Several items under internal questions could as well relate to questions from external agencies; this interpretation of the data would also be consistent with the highest priority on external questions expressed by the Executive Committee. Concerns for program quality, overall curricular integrity, proper evaluation criteria, and financial concerns all represent policy issues at a level external to the developmental program. These are state agency and governing board concerns for public institutions and governing board concerns for private institutions. Faculty and administrators within institutions also have strong interests and input in these areas, although my reading of this survey suggests a concentration of concern external to the institution.

Critical questions internal to the institution involve program evaluation and especially a concern for persistence in college beyond the developmental program and for cost effectiveness. Justifying a program within the institution is not very high priority. Where providing access has been accepted as part of an institution's mission, developmental programs need little further justification. There is some indication, however, that for institutions ambiguous about their role in stimulating access to high education, justification is an ongoing need.

The research agenda for an institution must relate to an assessment of internal and external questions. Does the institution have a clear mission? Is that mission consistent with a developmental program? What are acceptable criteria at that institution for a "successful" developmental program? Given those criteria, is the existing program successful? If not, how can it become so? What is the impact of the developmental program on the total curriculum?

The research agenda for an organization like NADE is staggering. Public policy issues most dominate. Studies of state and federal policies affecting developmental education

should be conducted and disseminated to better determine where we are. Coordinated evaluation and cost effectiveness studies should be conducted with multiple institutions and states to provide base line data on program effects and costs. Models for evaluation ought continue to be developed and improved. An active program to identify information needed to inform policy debates related to developmental education should be made and appropriate follow-up studies conducted. Finally, an improved survey might be administered periodically to the NADE membership to monitor on-going membership perceptions of priority items and questions.

Reference List

Boylin, H. (1983). Is Developmental Education Working? NARDSPE.

Clowes, D. A. and Anderson, B. (1984). An Evaluation Primer. NADE.

Kulik, C. C., Kulik, J. A. and Schwalb, B. J. (1983). College programs for high-risk and disadvantaged students: a meta-analysis of findings. Review of Educational Research. 53(3), 397-414.

Richardson, R. C., Jr., Fisk, E. C., and Okun, M. A. (1983). Literacy in the open-access College. San Francisco: Jossey-Bass, Inc.

APPENDIX A

NATIONAL ASSOCIATION FOR DEVELOPMENTAL EDUCATION

Research and Evaluation Committee

SURVEY I

		Highest Priority	Above average	Average	Below average	Lowest priority
Question One:	What are the justifications for a developmental program?					
1.	Protecting the quality of the mainstream curriculum.	1	2	3	4	5
2.	Providing a service to ensure access to higher education for minorities, adults, etc.	1	2	3	4	5
3.	Insuring academic basic skills training is available for all students.	1	2	3	4	5
4.	Providing an umbrella organization for academic support services.	1	2	3	4	5
5.	Providing an umbrella for institution wide testing and setting minimum standards for entry to the instructional program.	1	2	3	4	5
6.	Providing socialization and a gradual introduction to the college community.	1	2	3	4	5
7.	Providing older students with "refresher" work on basic skills.	1	2	3	4	5
8.	Providing a support to job training programs.	1	2	3	4	5
9.		1	2	3	4	5
10.		1	2	3	4	5

		1	2	3	4	5
Question Two: What external critical questions confront development programs?						
1.	Should students without academic basic skills be admitted to college?	1	2	3	4	5
2.	Should public monies pay for development education?	1	2	3	4	5
3.	Should there be admissions criteria for developmental programs?	1	2	3	4	5
4.	Should developmental programs have mandatory program evaluations?	1	2	3	4	5
5.	Should developmental program be cost effective?	1	2	3	4	5
6.	Should external agencies determine the purpose and extent of developmental education?	1	2	3	4	5
7.		1	2	3	4	5
8.		1	2	3	4	5
Question Three: What internal critical questions confront developmental programs?						
1.	Do students enter the college with appropriate academic basic skills?	1	2	3	4	5
2.	Do developmental courses or programs improve basic skills?	1	2	3	4	5
3.	Do tuition, fees, and government funding cover the costs of the developmental program?	1	2	3	4	5
4.	Do institutional goals and priorities support a developmental program?	1	2	3	4	5

		1	2	3	4	5
5.	Does having a developmental program positively effect curriculum quality?	1	2	3	4	5
6.	What students do the developmental program serve? Are they special interest groups?	1	2	3	4	5
7.		1	2	3	4	5
8.		1	2	3	4	5

Question Four: What criteria are appropriate for evaluation of developmental programs?

1.	Persistence in the developmental program or course.	1	2	3	4	5
2.	Persistence in college beyond the developmental program.	1	2	3	4	5
3.	Persistence to degree or program completion.	1	2	3	4	5
4.	Personnel development measured by completion of developmental courses.	1	2	3	4	5
5.	Cost-effectiveness.	1	2	3	4	5
6.	Basic skill improvement measured by pre and post-tests.	1	2	3	4	5
7.		1	2	3	4	5
8.		1	2	3	4	5

SPEAKER/CONSULTANTS IN THE FIELD OF DEVELOPMENTAL EDUCATION

by Sr. Mary Pardy, Ph.D.

Copiah-Lincoln Jr. College

AREA I-ASSESSMENT/PLACEMENT

NAME	SCHOOL	ADDRESS	SPECIAL TOPIC
Mrs. Ann Poore	Greenville Tech. College	Box 5616, Sta. B, Greenville, S.C. 29646	
Dr. Sarah Sanders	U.S.C.	Toefl Prog. Vola Ash. N.C.	Diagnosing oral English for TOEFL
Dee James	U.N.C. - Asheville	Ash. N.C.	Working with rem. black students.
Lee Noel	ACT Program	Iowa City	
Sharon Hayenger	Minneapolis Community College	1501 Hennepin Ave. Mpls. Mn. 55403	Assessment
John & Karen Niemeyer	Webster University	470 E. Lockwood St. Louis, Mo.	Assessment Is More Than Testing
Morris Massey	University of Colorado		Generation Value Gap
David Durham	Hinds Jr. College	Raymond, MS. 39154	Placing students with the Computer
Mr. James Baber	Copiah-Linclon Jr. College	Natchez, MS 39120	Assessment/Placement

1. c. NADE 84

AREA II - COUNSELING & ADVISING/INTERVENTION

NAME	SCHOOL	ADDRESS	SPECIAL TOPIC
Alexandra Krapels	USC/Cola	TOEFL	
Ann Appleton	Greenville TEC	Box 5616, Sta. B, Greenville, S.C. 29646	
Elizabeth Blackwell	Greenville TEC	Box 5616, Sta. B, Greenville, S.C. 29646	
Beverly K. Micheal	Univ. of Pittsburgh		Math Anxiety
Celestia Fraction	Minneapolis Comm. College	1501 Hennepin Ave. Minneapolis, Mn. 55403	
Karin Niemeyer	Webster University	470 E. Lockwood St. Louis, Mo. 63119	An Academic Intervention Program
Lucy Maurice Galvin, S.L.	Webster University	470 E. Lockwood St. Louis, Mo. 63119	Foreign Student Adv/C Early Warning of Acad. Difficulty
John O'Reilly	Webster University	470 E. Lockwood St. Louis, Mo. 63119	Personal Counseling/Inter. Alcohol, Drugs, Anorexia, Depres.
Hunter Boylan	Hinds Jr. College	Raymond, Ms. 39154	
David Drye	Jefferson Davis Campus	MS Gulf Coast Jr. College Gulfport, Ms. 39501	
Mr. James Baber	Copiah-Lincoln Jr. College	Natchez, Ms. 39120	Counseling & Advising/Intervention

2. c. NADE 84

AREA III - Developmental Curriculum (any national aspect)

NAME	SCHOOL	ADDRESS	SPECIAL TOPIC
Lois Bollman	Minneapolis Community College	1501 Hennepin Ave. Minneapolis, Mn. 55403	Reading
Ann Ludlow	Minneapolis Community College	1501 Hennepin Ave. Minneapolis, Mn. 55403	Reading
Casey Humphries	Minneapolis Community College	1501 Hennipin Ave. Minneapolis, Mn. 55403	Mathematics
Hugh Yamamoto	Minneapolis Community College	1501 Hennipin Ave. Minneapolis, Mn. 55403	Science & Problem Solving
Diane Chambers	Univ. of Minnesota	Duluth, Minnesota	Reading
Margaret Rauch	St. Cloud State University	St. Cloud, Minnesota	Reading & Computer Soft
John & Karin Niemeyer	Webster University	470 E. Lockwood St. Louis, Mo. 63119	The Expanding Role of the College Reading Teacher
James Brasfield	Webster University	470 E Lockwood St. Louis, Mo. 63119	Computer Training for Faculty And Advisors
John Rouche	University of Texas	Austin, Texas	
J.W. Carmichael, Jr. & Lester W. Jones	Xavier University	New Orleans, LA	Teaching Critical Read. & Anal. Reasoning in Project SOAR
Dr. Michael Hoban	LaGuardia Community College	31-10 Tomson Ave. Long Island, NY 11101	Develop Curriculum Design

3. c. MADE 84

AREA IV - THE LEARNER

NAME	SCHOOL	ADDRESS	SPECIAL TOPIC
Dr. Bela Herlong	Chair. Eng. Dept.	Salenda High School Salenda, S.C. 29118	Teaching/Lit. & writing to Rem/students
Dr. Rita Dunn	St. John's Univ.	Jamaca, N.Y.	Learning Styles
Dr. Joseph Wedwehouse	A.S.U.	Boone, N.C.	Adult Learners
Laura Weisel		Ohio	Adult Learn/dis (London Procedure)
Chair. Hawks	Augustana College	Rock Island, Ill.	
Susan Leflar			
Dr. Dale Jordan	Jordan-Adams Learning Ctr.	5700 N. Portlan Oklahoma City, Ok. 73112	Learning Disabilities
George Spear	UMKC	School of Education 52 Cherry Kansas City, Mo.	
Dr. Phil Carter	K-State	Manhatten, Ks.	"Development of the retired learner"
Walter Pauk	Cornell University		
Bernice McCarthy		Suite 101, 600 Enterprise Dr. Oak Brook, Il 60521	4Mat System Learning Styles
Elaine Duncan	Jefferson Davis Campus	MS Gulf Coast Jr. College Gulfport, Ms. 39501	The Adult Learner or or Diversity Meeting Needs
Dr. Corinne Anderson	Copiah-Lincoln Jr. College	Wesson, Ms 39191	Planning, Implementation and Evaluation (P.I.E.) of Learner Needs

4. c. NADE 84

AREA V - TUTORIAL SERVICES

NAME	SCHOOL	ADDRESS	SPECIAL TOPICS
Mrs.Lottie Gibson	Greenville Tec. College	Box 5616, Sta. B, Greenville, S.C.	
Dr. Bettie Horne	Lander College	Greenwood, S.C. 29646	Linguistic techniques forworkof rem/student Tutor Tr.
Berte Brown	Univ. Cal/ San Diego	San Diego, CA	
John Whitney Milton	Univ. Of Illonois @	Champaing, Illinois	Peer Tutors
Barbara E. Brown	Highland Comm. College	Illinois	(Haven'e heard her speak, but she has a good program)
Celestia Fraction	Minneapolis Community College	1501 Hennepin Ave. Minneapolis, Mn. 55403	Training & Set-up Tutorial Svcs.
Karin Niemeyer	Webster University	470 E. Lockwood St. Louis, Mo. 63119	The Senior Tutoring Service
Don Rhyan	K.C. Ks Community College	7150 State Ave. K.C., Ks 66112	Computerizing and coordinating a tutoring network

5. c. NADE 84

AREA VI - LEARNING CENTERS

NAME	SCHOOL	ADDRESS	SPECIAL TOPIC
David Fittman	Gulford Tech. College	Hudson, N.C.	Learning Center
Phoebe Helm	Triton College	Illinois	
		Maimi Dade Comm. Col. Florida	(Don't have a person in mind just heard program is good.)
Martha Maxwell			
Frank Christ		Longbeach, CA	
Celestia Fraction	Minneapolis Community College	1501 Hennepin Ave. Minneapolis, Mn. 55403	
Lois Bollman	Minneapolis Community College	1501 Hennepin Ave. Minneapolis, Mn. 55403	
John Niemeyer	Webster University	470 E. Lockwood St. Louis, Mo. 63119	What is a Learning Center?

6. c. NADE 84

AREA VII - Staff Development

NAME	SCHOOL	ADDRESS	SPECIAL TOPIC
Dr. Marty Herbert	Greenville Tec.	Box 5616 Sta. B. Greenville, S.C. 29646	
Ms. Linda Forrester	Greenville Tec.	Box 5616 Sta. B. Greenville, S.C. 29646	
Curtis Miles	Piedmont Tec. College	P.O. Drawer 1467 Greenwood, S.C. 29646	Problem Solving, Reading
Hunter Boylan	Center for Developmental Education	Appalachian State Univ. Boone, NC 28607	Learning Ctrs. Data Collection & Reaserch
John & Karin Niemeyer	Webster University	470 E. Lockwood St. Louis, Mo. 63119	The Expanding Role of the College Reading Teacher
James Brasfield	Webster University	470 E. Lockwood St. Louis, Mo. 63119	Computer Training for Faculty & Advisors
Millie Collins	Jefferson Davis Campus	Gulfport, Ms. 39501	The Role of Staff Development within a Developmental Program
Staff (ck. with Dr. Michael Hoban)	LaGuardia Comm. College	31-10 Thomson Ave. Long, Island, N.Y. 11101	Integrated Skills Reinforcement (IRS)

7. c. NADE 84

OTHER

Computer Software & Evaluation of Computer Software

1. Elmer Matilla, Minneapolis Community College, 1501 Hennepin Ave. Minneapolis, MN. 55403

2. Tom Boe, Minnesota Educational Computing Consortium, 3490 Lexington Ave. Arden Hills, Mn. 55112

3. John Niemeyer, Webster University, 470 E. Lockwood, St. Louis Mo. 63119
   Management: The Moving Force in Developmental Education

------- Group seminars for the disoriented learner -------

Dr. Mildred Steele, Central College, Pella, Iowa 50219
A Longitudinal Study of College Seniors Who had Below-Average Academic Records as Freshmen

Melinda Bartley Southern Univ., New Orleans, LA Challenges Facing Development

ERIC Clearinghouse for Junior Colleges
NOV 7 1986